

REMARKS/ARGUMENTS

Claims 1, 2, 4-9, 12, 13 and 16-20 stand rejected.

SECTION 102/103 REJECTIONS

Claims 12, 13 and 16-20 have been rejected as anticipated by Oda. Claims 1, 2 and 4-9 have been rejected as obvious in view of Oda and Laughlin. Applicants respectfully submit that these rejections are overcome for the reasons set forth below.

Amended claim 1 includes features which are not suggested by the cited references, namely;

- a source controller triggering an optical source to illuminate a target **during an on-time period**;
- a delay block ... imposing a delay interval starting at the triggering of the optical source, **the delay block triggering an image acquisition at the end of the delay interval**,
- wherein after the image acquisition the source controller turns **both the optical source and the image acquisition off, so that the on-time period of the optical source is longer than an on-time period of the image acquisition**, and
- the delay interval defines an optical charge pulse that provides light to a sensor **prior to triggering the image acquisition**, ...

Basis for amended claim 1 may be found, for example, in Fig. 3 and in the specification, at page 3, line 20 to page 4, line 2. As described, control signal C₁ turns sensor 2 ON at falling transition 3 (Fig. 3). The delay circuit generates C₂ which turns the image processor ON at falling transition 5 (Fig. 3). Furthermore, C₂ is turned OFF by rising transition 1 of signal C₁ and the image processor is also turned OFF by the next rising transition of signal C₂, which coincides with the rising edge of signal C₁. Accordingly, the ON-time period of optical source 2 is longer than the ON-time period of image processor 8 (shown in Fig. 4).

Oda discloses timing whether an object is located at a far distance or at a near distance. This is accomplished by turning ON source 13 and measuring the return signals detected by sensors 4, 5 and 14 (Fig. 8). Oda discloses delay circuit 2, as shown in Fig. 1. Oda notes at

column 4, lines 5-12, that source 13 is driven a little before the fall of light pulse S2 (Fig. 4), because the response characteristics of the photodiodes require a settling time period. Oda further notes that delay circuit 2 may be omitted.

Applicants respectfully submit that Oda provides an optional delay circuit, in order for the sensors to stabilize. This stabilization has nothing to do with Applicants' invention, which requires that the optical charge pulse charges the sensor to compensate for dark current discharge in the sensor.

Applicants respectfully submit that Oda is not relevant to the invention as cited in amended claim 1.

Assuming arguendo that Oda is relevant to the present invention, nevertheless, the Office Action, at page 4, states that Oda does **not** teach that after the image acquisition, the source controller turns the optical source OFF. Amended claim 1 now requires that the source controller turn **both the optical source and the image acquisition OFF**. This feature is not suggested by Oda.

Furthermore, Oda does **not** suggest other features of amended claim 1, namely, that the source controller turn both the optical source and the image acquisition OFF, **so that the ON-time period of the optical source is longer than the ON-time period of the image acquisition**.

Laughlin teaches an imaging system for detecting a target. A receiver includes a gated pulse for receiving a reflected pulse from the target. Laughlin's gated pulse is what the Examiner takes as being the same as the image acquisition period of the present invention. The gated pulse, however, must encompass (or envelop) a narrower received optical pulse which is reflected from the target. Therefore, the gated pulse of Laughlin cannot be shorter in duration than the ON time of the optical transmitted pulse. Accordingly, Laughlin does not disclose the features newly added into amended claim 1, namely **that the ON-time period of the optical source is longer than the ON-time period of the image acquisition**.

Since neither Oda, nor Laughlin, in combination or singly, discloses the features of amended claim 1, they cannot be used to obviate the invention as recited in amended claim 1. Favorable reconsideration is respectfully requested.

Although not the same, independent claim 12 has been amended to include features similar to amended claim 1. Amended claim 12 is, therefore, not subject to rejection in view of the cited references for the same reasons set forth above for amended claim 1.

Dependent claims 2, 4-9 depend from amended claim 1. Dependent claims 13 and 16-20 depend from amended claim 12. These dependent claims are, therefore, not subject to

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rejection in view of the cited references for at least the same reasons set forth above for amended claim 1. Favorable reconsideration is respectfully requested.

CONCLUSION

The application is in condition for allowance.

Respectfully submitted,

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